

REMARKS

By the following actions, claims 1, 2 and 7 have been amended and claims 22-27 canceled. In view of these actions and the following remarks, reconsideration of this application is now requested.

Claims 1-6 have been rejected under 35 USC § 103 as being unpatentable over the Armbruster patent while claims 7-27 have been rejected on this basis when Armbruster is viewed in combination the Cope et al. patent. To the extent that these rejections relate to the claims as now presented, they should be withdrawn for the following reasons.

As stated in the specification of this application, an object of the present invention is to achieve "low cost and maximum mechanical and control-engineering operating reliability. It is axiomatic that the more complex a structure is, the more costly it will be to produce and the more prone to failure it becomes. Thus, it is significant that the present invention is structurally less complex than the arrangement of the Armbruster patent, as will be apparent from the following.

In particular, the door latch of the Armbruster patent has a driving chain which runs from the actuating element 53 to the ratchet 5 with the elements 56, 54, 55, 26, 27, 29, and 8 being arranged therebetween. The ratchet 5 is always coupled to this driving chain which is used for producing both opening assistance as well as closing assistance. As a result, a rocker plate 9 and an arm 14 are provided to redirect the driving force.

In contrast, no means for redirecting of the driving force is required in accordance with the present invention. This is because the ratchet is not always coupled to the engagement element of the actuator, but instead the engagement element is coupled to one or the other of the ratchet and the latch in dependence on the direction of movement of the actuator element. More specifically, movement of the actuating element out of an initial position in a first direction causes the ratchet (and not the latch) to be coupled to the engagement element while movement of the actuating element from the initial position in the opposite direction causes the latch (and not the ratchet) to be coupled to the engagement element. This results in a simpler arrangement than that of Armbruster.

The above distinctions between Armbruster and the present invention are now clearly brought out in independent claim 1 which now recites the fact that:

wherein the engagement element provides a coupling to and decoupling from the ratchet during movement of the engagement element in respective directions, and provides a coupling to and decoupling from the latch during movement of the engagement element in respective directions of movement of the engagement element opposite said respective directions,

Additionally, it is pointed out that the recited presence of a step-down gear (11) interposed between the actuating element (9) of the actuator (7) and the latch (2) further increases the simplicity of the coupling for providing the closing assistance function in a way that has significance in applicants' arrangement by enabling the torque applied by the actuator to be about the same for both closing and opening assistance. This function is different from the role played by the step-down transmission (54) of Armbruster because no coupling and decoupling is produced during operation of Armbruster's mechanism.

With regard to claim 7, as correctly indicated by the Examiner, the use of multiple Hall sensors for detecting the position of a component, like a ratchet, is well known. However, claim 7 is not directed to this general situation. As set forth in presently amended claim 7:

... the two Hall sensors and the magnet on the ratchet are arranged such that the magnet is moved by moving the ratchet into positions which are, respectively, in the detection range of one of the two Hall sensors, *in the detection ranges of the two Hall sensors* and outside the detection ranges of the two Hall sensors

Thus, unlike the situation in the prior art where the number of Hall sensors corresponds to the number of positions to be detected, the magnet only being in the detection range of any one of the Hall sensors at any given point (or out of the detection range of all of them), in the case of the present invention, the magnet is arranged to be movable into a position by the ratchet in which the magnet is "in the detection ranges of the two Hall sensors." Furthermore, the fact is that door locks for buildings represent a separate art from those for motor vehicles, and the deadbolt lock of Cope et al., in particular, is one without a ratchet. As a result, one in the motor vehicle lock art of Armbruster would not look to Cope et al. for suggested modifications, and even if they did, the simple fact remains that the Hall sensor detection technique of Cope et al. would not suggest the particular Hall sensor/magnet/ratchet arrangement of the present invention which enables two Hall sensors to detect three positions

of the magnet since at no time is more than one Hall sensor in Cope et al. able to detect the presence of their magnet and because the number of positions detected correspond to the number of sensors provided.

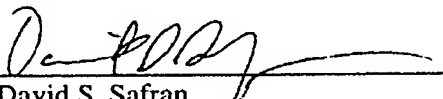
Therefore, for all of the above reasons, the outstanding rejections under § 103 should be withdrawn and such action is hereby requested.

The prior art that has been cited, but not applied by the Examiner has been taken into consideration during formulation of this response. However, since this art was not considered by the Examiner to be of sufficient relevance to apply against any of the claims, no detailed comments thereon are believed to be warranted at this time.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise, which could be eliminated through discussions with applicant's representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Lastly, it is noted that a separate Extension of Time Petition accompanies this response along with a deposit account authorization for payment of the requisite extension of time fee. However, should that petition become separated from this Amendment, then this Amendment should be construed as containing such a petition and authorization for the required payment applied to Deposit Account No. 19-2380 (740116-487).

Respectfully submitted,


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